Atlans 5-AHRS

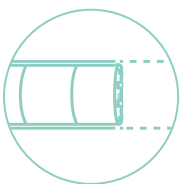## Gyrocompass and motion sensor for civil engineering applications

Atlans 5-AHRS is an all-in-one gyrocompass and motion sensor based on Exail's renown Fiber-Optic Gyroscope (FOG) technology. With algorithms specially designed for civil engineering and industrial applications, Atlans 5-AHRS offers to these markets highly accurate heading and attitude.
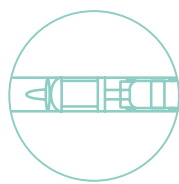
FEATURES & BENEFITS

- All-in-one high-accuracy 3D orientation with true heading, roll and pitch
- Robust to harsh environments
- Unique FOG strap-down technology
- Compact, light and reliable
- Ethernet, web server (GUI)
- Static and dynamic alignment modes, with or without GNSS
- Embedded data logger

- Fast alignment (no aiding sensors)
- Versatile I/O options for integration
- Embedded web user interface
- Low latency for real time control loops
- Maintenance free
- User-friendly/intuitive and integration
- ITAR-free
- Not export-controlled under applicable EU export control regimes
- High reliability

APPLICATIONS

Tunneling and mining

Pipe Inspection

Industrial Vehicle

Drilling

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TECHNICAL SPECIFICATIONS

Performance

Heading accuracy with GNSS during navigation	0.15° seclat RMS [1]
Heading accuracy in autonomous mode but with rotations during alignment	0.23° seclat RMS [1]
Heading accuracy after 15 minutes in static autonomous mode	0.4° seclat RMS [1]
Heading accuracy after 5 minutes in static autonomous mode	0.5° seclat RMS [1]
Roll/Pitch	0.1° RMS
Resolution for Heading, Roll, Pitch	0.001°
Heading / roll / pitch	0 ° to +360 ° / ±180 ° / ±90 °

Operating Range / Environment

Dynamic acceleration range	±5 g
Dynamic rotation rate range	Up to 490 °/s
Operating / storage temperature	–20 °C to +55 °C / –40 °C to +80 °C
Operating vibrations Survival vibrations	1 grms 0.04g2/Hz 3 grms 0.04g2/Hz
Shocks	27g / 15 ms damper shocks / 3 shocks per axis
Ingress Protection	IP66
MTBF	150,000 hours

Physical Characteristics

Dimensions (L x W x H)	160 x 160 x 113.5 mm
Weight	2.8 kg

Interfaces

User interface	Web based Graphical User interface
Ethernet[2]	1 physical 100 Mbit – UDP / TCP server / TCP client / web server (GUI) / NTP synchro
Serial RS232 / RS422[2]	Configurable 2i / 2o - Pulses 4i / 2o - Configuration port, baud rate up to 460 kbaud
Input/output formats	Industry standards: NMEA0183, ASCII, BINARY
Data output rate	0.1 Hz to 200 Hz real measurements
Pulses	PPS input for < 100µs time synchronization
Power supply / consumption	24 VDC (20 – 32 V) / < 12 W typ. @24V / ambient temperature

(1)   Secant latitude = 1/cosine latitude
(2)   All input /output serial ports can be duplicated on Ethernet ports

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